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10/654,765	09/04/2003	Paul S. Nordman	7784-000630	6910

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Mark D. Elchuk  
Harness, Dickey & Pierce, P.L.C.  
P.O. Box 828  
Bloomfield Hills, MI 48303

EXAMINER

ROSSI, JESSICA

ART UNIT PAPER NUMBER

1733

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/654,765	Applicant(s) NORDMAN, PAUL S.	
	Examiner Jessica L. Rossi	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 1/9/06, Election.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-25 and 27-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/3/05</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Species A, claims 7 and 25, in the reply filed on 1/9/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Drawings***

2. The drawings were received on 6/4/04. These drawings are accepted.

### ***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification lacks antecedent basis for the structural sheet having a plurality of perforations, as set forth in lines 6-7 of claim 13.

### ***Claim Objections***

4. Claims 5 and 14 are objected to because of the following informalities:

Regarding claim 5, "an" should be --a-- before "transparent" in line 1.

Regarding claim 14, it is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Note that claim 13, from which 14 depends, already establishes that the structural sheet is a metal sheet in line 12 (also see 112 2<sup>nd</sup> paragraph rejection below with respect to claim 13).

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Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 13-25 and 27-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 13, it recites the limitation "the metal sheet" in line 12. There is insufficient antecedent basis for this limitation in the claim. One reading the claim in light of the specification would have readily appreciated that the metal sheet is the structural sheet being claimed in claim 13. Therefore, it is suggested to insert --metal-- before "structural sheet" in lines 6, 8, 9 and 11 and insert --structural-- between "metal" and "sheet" in line 12.

Regarding claims 16 and 20-21, they recite the limitation "the metal sheets" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is suggested to change this to --the metal sheet--.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1-7, 9-25 and 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Day et al. (US 5665450, listed in IDS) in view of the collective teachings of Marini (US 2322582) and Orcutt (US 4277294) and further in view of Padden (US 5500272).

Day teaches forming an aircraft window that exhibits excellent transparency and superior strength as compared to conventional windows made from transparent glass/plastic sheets that are bonded via transparent plastic interlayers (column 1, lines 18-52). Instead, Day makes the window using transparent fiber pre-impregnated resin tapes, otherwise known as pre-pregs, that are stacked and then heated and pressed to cause the resin to melt and eventually cure thereby laminating the tapes to form the window (column 3, lines 5-8 and 52-65; column 11, lines 48-51; column 12, lines 4-12; column 10, lines 35-40; column 15, lines 15-25 and 44-46).

It is well known and conventional in the aircraft window art to attach the transparent components of a window (i.e. glass/plastic sheets and interlayers) to a metal frame/reinforcement structure, comprising at least one metal sheet that defines an opening, that allows the window to be easily incorporated into the aircraft's fuselage. Instead of laminating the transparent components to form the window and then subsequently attaching/bonding the laminated window to the frame/reinforcement, the prior art combines these steps into one by applying the transparent components to the metal sheet to at least partially cover the metal sheet and fill the opening and then heating and pressing the metal sheet and transparent components to laminate/bond the same via the interlayers, as taught by the collective teachings of Marini (Figures 1-2 - metal sheet 5, glass/plastic sheets 2 and interlayers 4; p. 1, column 1, lines 20-50; p. 1, column 2, lines 4-55) and Orcutt (Figures 1-4 - metal sheet 21/23, glass/plastic sheets 29/33

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and interlayers 31; column 1, lines 5-8; column 5, lines 44-48; column 6, lines 55-57; column 7, lines 37-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to attach a metal frame/reinforcement structure, in the form of a metal sheet defining an opening, to the transparent pre-pregs (window components) of Day using a single bonding step by applying the transparent pre-pregs of Day to the metal sheet to at least partially cover the metal sheet and fill the opening and then using the heating and pressing of Day to melt and eventually cure the resin in the pre-pregs thereby laminating the same to each other and to the metal sheet to form the window because such a bonding step is known in the art for simultaneously laminating transparent window components to each other and to a metal frame/reinforcement, as taught by the collective teachings of Marini and Orcutt, where the metal frame/reinforcement allows the window to be easily incorporated into an aircraft's fuselage and a single bonding step simplifies the manufacturing process; especially since it is known in the aircraft industry to simultaneously bond pre-pregs to each other and to metal sheets interposed between the pre-pregs by melting and curing the resin in the pre-pregs, as taught by Padden (Figure 1; abstract; column 1, lines 12-13; column 2, lines 19-25).

It is further noted that Day teaches a tool for lay-up of the pre-pregs (column 10, lines 35-40 and 60-62). It is further noted that Marini teaches the metal sheet 5 having perforations (p. 2, column 2, lines 8-9) and Orcutt teaches the metal sheet 21/23 having perforations 24 (Figure 1; column 5, lines 45-47). If it is not taken that Marini and/or Orcutt teach perforations in the metal sheet, it would have been obvious to one of ordinary skill to include perforations in the metal sheet of Day because such is known in the art, as taught by Padden, for decreasing the weight of

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the laminate while also improving the strength of the laminate since the resin can flow through the perforations to achieve a gripping mechanism between the metal sheets and pre-pregs (abstract of Padden).

9. Claims 13-25 and 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stefanik (US 4004388) in view of Roberts et al. (US 3953630), also in view of Padden and also in view of Day.

Stefanik teaches forming an aircraft window by providing a tool 48, which comprises tool members 49 and 50, providing pre-pregs 25-28, layering the pre-pregs onto the tool member 50, and heating the tool and pre-pregs such that the resin in the pre-pregs flows and eventually cures thereby laminating the same (Figure 6; column 3, lines 30-34; column 5, lines 39-55; column 6, lines 37-52). It is noted that the portions of the pre-pregs that extend beyond the edges of glass sheets 14/15 and interlayer 16 allow for mounting of the window in an opening of the aircraft's fuselage (column 4, lines 39-43).

It is known in the aircraft window art to insert metal sheets 24 between the portions of fiber pre-forms 22, which extend beyond the edges of glass sheets 10/11 and interlayer 12 for mounting of the window in an opening of the aircraft's fuselage, to reinforce the extending portions, wherein the fiber pre-forms and metal sheets are laminated to each other via a curable resin 26, as taught by Roberts (Figures 1-2; column 1, lines 6-8; column 5, lines 40-55; column 7, lines 32-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to insert metal sheets between the pre-pregs of Stefanik that extend beyond the edges of the glass sheets and interlayer before the heating step of Stefanik because such is known in the

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art for reinforcing fibrous layers that extend beyond the edges of the glass sheets and interlayer, as taught by Roberts.

It would have been obvious to one of ordinary skill to include perforations in the metal sheets of Stefanik in view of Roberts because it is known in the aircraft art to interleave perforated metal sheets between pre-pregs to strengthen the pre-pregs, where the perforations decrease the weight of the laminate while also improving the bond strength of the laminate since the resin can flow through the perforations to achieve a gripping mechanism between the metal sheets and pre-pregs, as taught by Padden (abstract).

It is noted that Stefanik also teaches the pre-pregs 25-28 extending over portions of the exterior of the glass sheets and extending between the interior of the glass sheets and interlayer (Figure 6). Therefore, it would have been obvious to use pre-pregs that are transparent so as not to affect the optical clarity of the window since transparent pre-pregs are known in the aircraft window art, as taught by Day (see above for complete discussion).

### ***Double Patenting***

10. Applicant is advised that should claims 18-21 be found allowable, claims 23-24 and 27-28 will be objected to under 37 CFR 1.75 as being substantial duplicates thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined

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application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-7, 9-25 and 27-33 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7 and 9-19 of copending Application No. 10/655,257 in view of Day et al.

It would have been obvious to use pre-impregnated fiber performs in the process of the '257 Application because such is known in the window art, as taught by Day, where this eliminates the step of applying resin to the assembly during lamination.

This is a provisional obviousness-type double patenting rejection.

13. Claims 1-7, 9-25 and 27-33 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 17-20 of copending Application No. 11/316,173 in view of Day et al.

It would have been obvious to use pre-impregnated fiber performs in the process of the '173 Application because such is known in the window art, as taught by Day, where this eliminates the step of applying resin to the assembly during lamination.

This is a provisional obviousness-type double patenting rejection.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JESSICA ROSSI  
PRIMARY EXAMINER**

*Jessica Rossi*